IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

	Confirmation No. 5466
	Group Art Unit: 2616
	Examiner: Abelson, Ronald B
Applicants: KUMAR, N et al.	**AMENDMENT and RESPONSE** to July 3,
Application No.: 10/736,302	2007 Non-Final Office Action
Filing Date: December 15, 2003	Docket No.: P16882
For: PACKET HEADER VERIFICATION	**PTO Customer Number 28062**
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Mail Stop Amendment (via EFS)
Commissioner for Patents
P.O. Box 1450
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Sir:

In response to the Non-Final Office Action mailed July 3, 2007, please amend the above-identified application as follows:

Amendments to the claims begin on page 2 of this paper.

Remarks begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method, comprising:

identifying a first ~~header~~ portion of an IP address and a second ~~header~~ portion of the IP address, the IP address contained in a packet header for an information packet;

storing the first ~~header~~ portion and the second ~~header~~ portion;

checking if the first ~~header~~ portion has a first pre-determined relationship to a ~~first~~ plurality of stored patterns associated with the first ~~header~~ portion; ~~and~~

checking if the second ~~header~~ portion has a second pre-determined relationship to a second stored pattern associated with the second ~~header~~ portion; and

generating an indication that the information packet has an invalid IP Address if either the first portion check or the second portion check fails.

2. (Currently Amended) The method of claim 1, wherein a plurality of pre-determined relationships and stored patterns are associated with the first ~~header~~ portion.

3. (Currently Amended) The method of claim 2, wherein the pre-determined relationships associated with the first ~~header~~ portion indicates that the first ~~header~~ portion should not equal any of the stored patterns associated with the first ~~header~~ portion.

4. (Currently Amended) The method of claim 3, wherein the stored patterns associated with the first ~~header~~ portion are stored in a content addressable memory unit.

5. (Currently Amended) The method of claim 4, wherein the first ~~header~~ portion check is performed simultaneously for all of the stored ~~header~~ patterns that are associated with the first ~~header~~ portion by providing the first ~~header~~ portion to the content addressable memory unit.

6. (Cancelled).

7. (Currently Amended) The method of claim 1, wherein the ~~packet header~~ IP address is associated with at least one of~~: (i) an Internet protocol network, (ii)~~ an asynchronous transfer mode network~~, and (iii)~~ or a frame relay network.

8. (Currently Amended) The method of claim 1, wherein an action identifier is stored along with the first ~~header~~ portion and the second ~~header~~ portion.

9. (Original) The method of claim 1, wherein the action identifier indicates whether the associated packet should be processed or dropped.

10. (Currently Amended) The method of claim 1, wherein a memory unit stores an indication of the first pre-determined relationship along with the first stored pattern for the first ~~header~~ portion.

11. (Currently Amended) The method of claim 10, wherein the memory unit stores a plurality of pre-determined relationships and associated stored patterns for the first ~~header~~ portion.

12. (Currently Amended) The method of claim 11, wherein the memory unit further stores an indication of the number of pre-determined relationships and stored patterns that are associated with the first ~~header~~ portion.

13. (Currently Amended) An article, comprising:

a storage medium having stored thereon instructions that when executed by a machine result in the following:

identifying a first portion of an IP address and a second portion of the IP address, the IP address contained in a packet header for an information packet;

storing the first portion and the second portion;

checking if the first portion has a first pre-determined relationship to a plurality of stored patterns associated with the first portion; and

checking if the second portion has a second pre-determined relationship to a second stored pattern associated with the second portion; and

generating an indication that the information packet has an invalid IP Address if either the first portion check or the second portion check fails.

~~identifying a first header portion and a second header portion of a packet header for an information packet,~~

~~storing the first header portion and the second header portion,~~

~~checking if the first header portion has a first pre-determined relationship to a first stored pattern associated with the first header portion, and~~

~~checking if the second header portion has a second pre-determined relationship to a second stored pattern associated with the second header portion.~~

14. (Currently Amended) The article of claim 13, wherein a plurality of pre-determined relationships and stored patterns are associated with the first ~~header~~ portion.

15. (Currently Amended) The article of claim 14, wherein the pre-determined relationships associated with the first ~~header~~ portion indicate that the first ~~header~~ portion should not equal any of the stored patterns associated with the first ~~header~~ portion.

16. (Currently Amended) The article of claim 15, wherein the stored patterns associated with the first ~~header~~ portion are stored in a content addressable memory unit.

17. (Currently Amended) The article of claim 16, wherein the first ~~header~~ portion check is performed simultaneously for all of the stored ~~header~~ patterns that are associated with the first ~~header~~ portion by providing the first ~~header~~ portion to the content addressable memory unit.

18. (Currently Amended) An apparatus, comprising:

a first memory unit to store a first ~~header~~ portion of an IP address and a second ~~header~~ portion an IP address, the IP address contained in~~of~~ a packet header for an information packet; and

a second memory unit to store (i) a first pre-determined relationship and associated first stored pattern for the first ~~header~~ portion and (ii) a second pre-determined relationship and associated second stored pattern for the second ~~header~~ portion.

19. (Original) The apparatus of claim 18, wherein the first and second memory units comprise a single device.

20. (Currently Amended) The apparatus of claim 18, wherein a plurality of stored patterns are associated with the first ~~header~~ portion.

21. (Currently Amended) The apparatus of claim 20, wherein the first ~~header~~ portion should not equal any of the stored patterns associated with the first ~~header~~ portion.

22. (Currently Amended) The apparatus of claim 21, wherein stored patterns associated with the first ~~header~~ portion are stored in a content addressable memory unit.

23. (Currently Amended) A system, comprising:

a backplane;

a first line card connected to the backplane; and

a second line card connected to the backplane, the second line card having a network processor that includes:

a first memory unit to store a first portion of an IP address and a second portion an IP address, the IP address contained in a packet header for an information packet; and

a second memory unit to store (i) a first pre-determined relationship and associated first stored pattern for the first portion and (ii) a second pre-determined relationship and associated second stored pattern for the second portion.~~a first memory unit to store a first header portion and a second header portion of a packet header for an information packet, and~~

~~a second memory unit to store (i) a first pre-determined relationship and associated first stored pattern for the first header portion and (ii) a second pre-determined relationship and associated second stored pattern for the second header portion.~~

24. (Original) The system of claim 23, wherein the first and second memory units comprise a single device.

25. (Currently Amended) The system of claim 23, wherein a plurality of stored patterns are associated with the first ~~header~~ portion.

26. (Currently Amended) The system of claim 25, wherein the first ~~header~~ portion should not equal any of the stored patterns associated with the first header portion.

27. (Currently Amended) The system of claim 26, wherein stored patterns associated with the first ~~header~~ portion are stored in a content addressable memory unit.

REMARKS

Claims 1 through 5 and 7 though 27 are in the application, with claims 1 through 5, 7, 8, 10 though 18, 20 through 23, and 25 through 27 having been amended, and claim 6 having been cancelled. Claims 1, 13, 18, and 23 are the independent claims herein. No new matter has been added. Reconsideration and further examination are respectfully requested.

Claim Rejections

Claims 1, 2, 6, 7, and 10 through 14 are rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,834,310 ("Munger"). Claims 3 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Munger in view of U.S. Patent Publication No. 2003/0058860 ("Kunze"). Claims 18 – 20 and 23 – 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Munger in view of U.S. Patent No. 4,878,002 ("Heatzig"). Reconsideration and withdrawal of the rejections are respectfully requested.

Claims 1, 13, 18, and 23

Amended independent claim 1 discloses a method comprising identifying a first portion of an IP address and a second portion of the IP address, storing the first portion and the second portion, checking if the first portion has a first pre-determined relationship to a plurality of stored patterns associated with the first portion, checking if the second portion has a second pre-determined relationship to a second stored pattern associated with the second portion, and generating an indication that the information packet has an invalid IP Address if either the first portion check or the second portion check fails. Moreover, the IP address is contained in a packet header for an information packet.

The art of record cannot be seen to disclose or to suggest the above-mentioned features of amended independent claim 1. In particular, the art of record cannot be seen to disclose or suggest identifying a first portion of an IP address and a second portion of the IP address where the IP address is contained in a packet header for an information packet.

Munger, at column 22, discloses a receive table that lists IP addresses and destination IP addresses. Munger checks the receive table to determine if an IP is valid or invalid. However, nowhere does Munger disclose that a first portion of an IP address is checked nor does Munger disclose that a second portion of the IP address is checked. Furthermore, and referring to FIG. 9, Munger illustrates that the IP addresses listed are full IP addresses.

Accordingly, nowhere can Parker be seen to disclose or suggest identifying a first portion of an IP address and a second portion of the IP address where the IP address is contained in a packet header for an information packet. In view of the foregoing, amended independent claim 1 and its related dependent claims are believed to be in condition for allowance.

Amended independent claims 13, 18, and 23 roughly correspond to amended independent claim 1. Therefore, amended independent claims 3, 18, and 23 and their related dependent claims are also believed to be in condition for allowance.

CONCLUSION

The outstanding Office Action presents a number of characterizations regarding the applied references, some of which are not directly addressed by this response. Applicants do not necessarily agree with the characterizations and reserve the right to further discuss those characterizations.

For at least the reasons given above, it is submitted that the entire application is in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is kindly invited to contact the undersigned via telephone at (203) 972-4982.

Respectfully submitted,

August 24, 2007
Date

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